


Quick Quiz

Question	Answer				Marks
Topic	1	2	3	4	
7Ka	D	C	A	B	4
7Kb	D	C	B	B	4
7Kc	C	D	B	C	4
7Kd	C	C	C	B	4
7Ke	A	B	B	C	4

Matching End of Unit Test marks to NC levels

Level	Marks available	Cumulative total	Suggested threshold for achieving level
3	2	2	2
4	7	9	7
5	6	15	12
6	7	22	19
7	3	25	24

End of Unit Test marks

Question	Level	Answer	Mark scheme
1	3	a push, pull	1 mark – for both correct
	3	b shape, speed, direction	1 mark – for all 3 correct
2	4	a any example of useful friction (e.g. shoes on floor, tyres on road)	1 mark
	4	b any example of friction not being useful (e.g. in an engine, axles)	1 mark
3	4	a Increase roughness of surface or use high-friction material (e.g. rubber).	1 mark
	4	b Use a lubricant.	1 mark – accept 'use oil'/'polish them' or similar answer, or 'reduce the force with which the surfaces are pushed together'
4	5	Equal sized up and down arrows drawn;	1 mark
	5	upthrust and gravity (or weight) correctly labelled.	1 mark
5	5	The friction force is balancing the pulling force.	2 marks – 1 mark for mentioning the name of the opposing force, 1 mark for indicating balanced forces – accept 'forces are the same size'
6 	4	a Use the same spring/type of spring in both tests.	1 mark
	5	b one from: fasten stand to bench to make sure it cannot topple over; put a box beneath to make sure weights cannot fall on feet; wear eye protection in case spring breaks	1 mark
	6	c to make her results more accurate/to spot any errors	1 mark– accept 'so she could calculate an average'
	6	d It is very different from the other results, so it may be a mistake.	1 mark– accept 'it may be a mistake'
	4	e points plotted accurately	1 mark
	7	points accurately plotted and line of best fit drawn	1 mark

Question	Level	Answer	Mark scheme
	4	f The extension is less when there are two springs.	1 mark
	6	One additional mark for either stating that the extension is only half the amount with two springs than with one, or that the extension is less because each spring only has to support half (or some) of the weight.	1 mark
7	6	A ticked	1 mark – no marks if B also ticked
	6	C ticked	1 mark – no marks if D also ticked; remove one mark if E ticked
8	7	a g/cm ³	1 mark
	6	b numbers substituted correctly and correct answer (0.5 g/cm ³)	1 mark
9 H S W	5	a 4.5 miles	1 mark – for number and units
H S W	7	b section of graph between 50 and 54 minutes labelled	1 mark
H S W	6	c 6 minutes	1 mark

Answers to Quick Check activities

Quick Check	Answers
7Ka	<p>A up arrow from tissues (static electricity), down arrow (gravity)</p> <p>B down arrow (gravity) – some pupils may add up arrow (air resistance)</p> <p>C equal up and down arrows at seat (upthrust and gravity)</p> <p>D down arrow (gravity), up arrow on elastic band</p> <p>E equal up and down arrows (upthrust and gravity)</p> <p>F arrow up along slide (friction and air resistance), vertical down arrow (gravity)</p> <p>G up arrow (arm push) and down arrow (gravity)</p> <p>H four arrows (air resistance/drag, gravity, lift/force from wings, forward force from engines)</p>
7Kb	<p>2 Friction between the fireman and the pole; useful (stops him falling too fast); increase by making pole/clothing rougher.</p> <p>3 Friction between tyres and road; useful (lets car be steered/braked); increase by using rougher road surface or different material for tyres.</p> <p>4 Friction between ends of ladder and wall/floor, and between feet and ladder; useful (stops ladder and man slipping); increase by using rougher surfaces or different materials.</p> <p>Friction between drill bit and wall; useful (wears material away to make a hole); increase by pushing on drill.</p>
7Kc	<p>1 A false – Your body will float in water; B true; C false – A lump of iron will sink in water; D false – The upthrust does not balance its weight; E false – Polystyrene will float in water; F true; G false – It is easier to float in very salty water; H true</p> <p>2 B explains corrected A; corrected D explains corrected C; F explains corrected E; H does not explain; corrected G</p>